# City of Greensboro

## Patrol Staffing Study

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# EXECUTIVE SUMMARY

In the fall of 2003, the City of Greensboro's Budget and Evaluation Department and Police Department began a collaborative effort to examine the current staffing level of the patrol function in the Greensboro Police Department (GPD). The purpose of the study is to document the current service capabilities of the patrol function and evaluate its service effectiveness based on performance measures, agreed upon benchmarks, and comparisons with similar jurisdictions. The data collected throughout this study, as well as expectations of citizens and City leaders, should be used to provide a framework for staffing needs and to evaluate requests for additional staffing.

The findings of this study seem to indicate that perceived deficiencies within the patrol function are based mostly on the expectations the Greensboro Police Department has set for its officers in terms of patrol and proactive activity. Patrol Officers in Greensboro answer approximately the same number of Calls for Service per Employee (Sworn Only or Total) as those in similar jurisdictions and seem to spend approximately the same amount of time answering Calls for Service as officers in similar jurisdictions. The Greensboro Police Department does however appear to be staffed at a lower level than the average of similar jurisdictions and has slower than average response times. Additional officers are required in order to increase the amount of time spent on proactive functions and patrolling.

Based on the research conducted as part of this study, the following information is known about current service levels.

- ***In FY 2002-2003, the GPD received 220,705 Calls for Service (CFS). Of these, 41,192 were traffic stops. Differential Police Response units (Telephone Response, Mobile Response Team) responded to 22,459, or 12.5 percent of the total "Non-Traffic Stop" Calls.***

- ***The average response time in FY 2002-2003 for Priority 1, 2, & 3 calls was 12.04 minutes. The average response time for Priority 1 calls alone was 7.85 minutes. This figure drops to 39.19 minutes for Priority 3 calls.***

- ***A Greensboro Patrol Officer spends approximately 20.5% of his/her time on administrative duties, 72.9% of his/her time answering Calls for Service, and 6.6% of his/her time on patrol and conducting proactive services.***

As a community, Greensboro doesn't appear to have a greater demand for service than other comparable cities in the State.

- ***Greensboro ranks low in relation to the comparison cities in terms of the number of the most serious crimes and in total calls dispatched.***

The Greensboro Police Department appears to have a below average number of employees and sworn officers compared to other comparable cities.

- ***Greensboro ranks below average for both the number of sworn officers and number of total employees per 1,000 residents in relation to the comparison cities.***

- ***Greensboro has fewer sworn officers per square mile and fewer sworn officers per road mile than the average of the comparison cities.***

The Greensboro Police Department patrol officers answer a below average number of Calls for Service in relation to those in comparable cities.

- ***Greensboro ranks below the average of the comparison regarding the number of calls dispatched per employee (sworn & non-sworn) and calls dispatched per sworn officer.***

Response times for the Greensboro Police Department are slower than other comparable cities.

- ***Greensboro is slower than average in terms of response time to high priority calls in regards to the comparison cities.***

It should be noted that the Police Department has already taken steps to ensure its existing personnel are used in a way that supports good stewardship and helps prepare the agency for future demands. By lengthening the shift of patrol officers and assigning additional personnel to the patrol function, the Department has been able to increase the number of officers available during critical service delivery times and increase the amount of time patrol officers have for proactive duties. These changes reduced the amount of time patrol officers spend answering calls for service from 78.1 percent to 72.9 percent. To achieve such a reduction prior to the schedule changes would have required an additional fifteen officers. The GPD will also continue to use Telephone Response Units and non-sworn personnel when possible in an effort to reduce the call load of patrol officers and increase time available for proactive duties.

Based on these findings, this report offers four different staffing options. The number of additional officers included in each option is based on achieving a target percentage of time that patrol officers should spend on patrol and performing proactive duties. Any decisions concerning the appropriate staffing level of the patrol function should be based on the level of service desired from the Police Department while taking into consideration the findings of this study. It should be noted however that the information in this report should be considered in its entirety as no one particular measure offers a definitive answer as to which option is appropriate for Greensboro.

## INTRODUCTION

In the fall of 2003, the City of Greensboro's Budget and Evaluation Department and Police Department began a collaborative effort to examine the current staffing level of the patrol function in the Greensboro Police Department (GPD). The purpose of the study is to document the current service capabilities of the patrol function and evaluate its service effectiveness based on performance measures, agreed upon benchmarks, and comparisons with similar jurisdictions. The data collected throughout this study, as well as expectations of citizens and City leaders, should be used to provide a framework for staffing needs and to evaluate requests for additional staffing.

## REDEPLOYMENT OF RESOURCES

Effective on January 20, 2004, GPD leadership made several changes in the deployment of its resources in an effort to ensure that current personnel are being used in the most efficient manner. These changes are meant to maximize the effectiveness of current resources by putting more officers in the field during the busiest times and using special units to address other community issues. These actions include:

- Transitioning from three patrol shifts to four shifts per workday to yield more personnel on-duty during peak customer service demand periods.
- Extending the patrol workday from 10.5 hours to 11 hours to commit maximum amounts of work time to basic patrol operations.
- Implementing Special Enforcement Teams, Traffic Safety Units, and Community Resources Teams to directly impact quality of life issues for the service areas.

## METHODOLOGY

In November 2003, Budget and Evaluation began working with the Police Department to develop a comprehensive Project Scope to study the effectiveness of current staffing levels of the patrol function within the Police Department (See Appendix Object A). Once this scope was agreed upon by the involved parties, GPD personnel began collecting data regarding our current service levels.

According to the International Association of Chiefs of Police (IACP), "a series of professional guidelines and departmental policy preferences must be explicitly considered and deliberately applied" in order to properly determine patrol requirements. These include: Policing Style/Philosophy; Service Philosophy; Response Time Standards; and Community Policing Roles. Figure 1 offers a brief description of how IACP defines these terms (http://www.theiacp.org/profassist/PatrolDeployment.pdf).

| Figure 1: IACP Professional Guidelines and Departmental Policy Definitions | |
|---|---|
| Policing Style/Philosophy | The division of an average officer's time over the course of an average workday. One school of thought is that the officer's time should be divided evenly over Field Patrol Activity, Responding to Calls for Service (CFS), and Administrative Duties, i.e. 33% per each category. |
| Service Philosophy | The way an agency will respond to each complaint made by a citizen. Some agencies may send a patrol officer to every call while others attempt to divert calls through Differential Patrol Responses (DPR) such as Telephone Response or the use of Non-Sworn Personnel. |
| Response Time Standards | The amount of time it takes an officer to respond to a high priority call. Response times can be affected by both staffing level and call prioritization. |
| Community Policing Roles | The Department's commitment to community-inclusive forms of policing. Community and problem solving policing is labor intensive and the required staffing level may vary greatly depending upon the responsibilities of the officers. |

Much of the data collected on current service levels in the GPD is directly related to these IACP Recommended Professional Guidelines and Departmental Policies. This will be addressed throughout the document. The following areas were points of emphasis regarding data collection for this study:

- Total Calls for Service
- Number of calls handled through Differential Police Response (Mobile Response Technicians and Telephone Response Units).
- Response Times
- Number of responses (Officers on Scene) per Call for Service answered by Patrol Officer
- Developing a Shift Relief Factor to illustrate the number of hours per year that a Patrol Officer has available for answering calls for service/patrolling.
- Using a Time of Day/Day of Week Analysis along with the Shift Relief Factor to determine the amount of time that Patrol Officers are currently spending answering Calls for Service versus patrolling and handling other police functions.

Once this data had been collected, emphasis shifted toward the collection of comparative data from the cities of Raleigh, Durham, and Winston-Salem. GPD and Budget and Evaluation staff collected demographic and socio-economic data from each of these cities and used information submitted by these cities to the Institute of Government in Chapel Hill for its annual Benchmarking Study. Performance measures developed from this data include:

- Part I Crimes per 1,000 Residents
- Calls Dispatched per Employee
- Calls Dispatched per Sworn Officer

- Calls Dispatched per Capita
- Average Response Time to High Priority Calls
- Sworn Officers per 1,000 Residents
- Total Employees per 1,000 Residents
- Sworn Officers per Square Mile
- Sworn Officers per Road Mile

Greensboro Police and Budget and Evaluation staff then met with representatives from the Police Departments in the comparative cities in an effort clean the data, ask questions about organizational structure, and ensure that accurate comparisons could be made.

## GREENSBORO POLICE DEPARTMENT SERVICE LEVELS

***FINDING 1: In FY 2002-2003, the GPD received 220,705 Calls for Service (CFS). Of these, 41,192 were traffic stops. Differential Police Response units (Telephone Response, Mobile Response Team) responded to 22,459, or 12.5 percent of the total "Non-Traffic Stop" Calls.***

A Calls for Service (CFS) Analysis conducted for FY 2002-2003 indicates that GPD received 220,705 CFS in that year. This information was obtained from Computer Aided Dispatch (CAD) records. CFS were defined as citizen calls for police response. Self-initiated calls were also included in this analysis based upon the assumption that a patrol officer is taking police action on a matter that would have eventually resulted in a CFS.

When the 41,192 traffic stops were removed from the CFS total, the analysis shows that the GPD received 179,513 calls that required some police response. Of the 179,513 calls, 12.5 percent (22,459) were responded to through some form of Differential Police Response (DPR). The DPR measures utilized by the GPD are Telephone Response Units (TRU's) and Mobile Response Technicians (MRT's). The TRU section is used to take reports over the telephone and is generally used for cases without suspects or evidence. MRT's are trained in evidence collection and crime analysis and are most often used to investigate residential burglaries. Both of these units utilize non-sworn personnel and are only used when there is no threat of injury or property loss.

The IACP Professional Guidelines and Departmental Policy Definitions referenced in Figure 1 in the Methodology refers to Service Philosophy as the way an agency responds to each complaint made by a citizen. In an effort to offer cost efficient service, the GPD has chosen to use TRU's and MRT's when appropriate. It feels providing these services with non-sworn personnel reduces the cost of the service while allowing sworn patrol officers to focus on more serious calls and community problems.

It should be noted that about 3 percent of the CFS figures (net of Traffic Stops) were responded to by officers whose primary functions do not include patrol. These officers include School Resource Officers (SRO), Motorcycle, Parking Enforcement, K-9, Crime

Abatement Team (CAT), Crash Investigation/Traffic Enforcement (CITE), and Police Neighborhood Resource Center (PNRC) Officers. Figure 2 illustrates the break down of call responses for FY 2002-2003 by the responding units. It is not expected that this research will eliminate the need for these officers to answer a small percentage of CFS.

| Figure 2: CFS by Unit Responding | |
|---|---|
| | FY 2002-2003 |
| Patrol | 151,583 |
| CITE-PNRC-CAT | 5,186 |
| Other Sworn | 285 |
| TRU-MRT | 22,459 |
| TOTAL | 179,513 |

***FINDING 2: There were 151,583 CFS answered strictly by patrol officers in FY 2002-2003. These calls produced a total of 269,957 responses, meaning that on average each CFS required 1.78 officers. Each response requires an average of 57.98 minutes or 96.64% of one hour.***

One cannot look at Calls for Service counts alone as a workload measure for a Police Department. Many calls require the dispatch of multiple officers and may require that those officers remain on the scene for an extended period of time. The Response Analysis conducted by the GPD indicates that each Call for Service requires an average of 1.78 officers and that each officer will spend an average of 57.98 minutes on each response.

The above information was established by collecting call counts by call type, the number of responses for each call type, and the amount of response hours spent per call for each call type. The *Number of Responses* was then divided by the *Number of Calls* to determine the *Average Number of Responses*. The number of *Total Response Hours* was then divided by the *Average Number of Responses* in order to calculate the *Average Number of Hours per Response*. These calculations were done for each call type as well as the total figures in order to reach the *Average Number of Responses per Call* in the City for FY 2002-2003 and the *Average Number of Hours per Response*. The *Average Number of Hours per Response* is a key figure used in the calculations for the Workload Analysis discussed later in the document.

The number of officers dispatched and the amount of time spent per call may vary significantly per call type. For instance, on average 1.4 officers were generally dispatched to burglar alarm calls and they generally spent 25.5 minutes per officer on that call. On robbery-business calls however, 4.8 officers were dispatched on average and they spent an average of 3.64 hours per officer on that call.

It should be noted that that this data includes only the responses made by patrol officers. Any responses made by other units were not included in order to get a true picture of the workload of patrol officers. This response analysis is listed as Object B in the Appendix.

***FINDING 3: The average response time in FY 2002-2003 for Priority 1, 2, & 3 calls was 12.04 minutes. The average response time for Priority 1 calls alone was 7.85 minutes. This figure drops to 39.19 minutes for Priority 3 calls.***

*Response Time* is one of the Professional Guidelines and Departmental Policies listed by the IACP as a factor that affects staffing needs. Although formally-endorsed response times have not been established, response times to highest-priority calls must be as rapid as possible. The community also needs to determine the amount of time it feels a citizen should have to wait for police response to a low priority call. Response times can be driven by both staffing levels and call prioritization.

The GPD has developed nine priority codes for dispatch. Priority 4 calls through Priority 9 calls do not require the presence of a uniformed officer and can be handled by the Mobile Response Team or Telephone Response. Priority 1 through Priority 3 calls are defined as follows:

- **Priority 1 -** Calls that are classified as Priority 1 will be dispatched to the first available patrol unit. They may require citywide dispatch. These calls involve crimes or incidents that are in progress or that have just occurred; calls that involve or present the probability of serious injury; or calls where the suspect is in the immediate area and/or may elude apprehension.

- **Priority 2 -** Calls that are classified as Priority 2 will be dispatched to the first available patrol unit within the district. The assist unit may be dispatched from anywhere in the city. These calls involve incidents that may be in progress and do not involve serious injury.

- **Priority 3 -** Calls classified as Priority 3 will be dispatched to the patrol unit assigned to the response area in which the call is located. Communications will advise the caller that the response time could be up to two hours. These calls involve crimes or incidents that do not require immediate medical attention, and those involving property damage or loss. These calls could include larcenies, burglaries, and vandalism.

Figure 3 illustrates response times for Priority 1, 2, and 3 calls for FY 2002-2003. The formulas used to develop these figures are listed as Object C in the Appendix. The information in Figure 3 excludes self-initiated activity, which would have a response time of 0 minutes and would artificially lower the response times. The GPD has used *Response Time* as a performance measure for over five years and aspires to respond to all Priority 1 calls within six minutes and all Priority 2 calls within ten minutes.

**Figure 3: FY 2002-2003 Response Times in Minutes**

| | Priority 1 | Priority 2 | Priority 3 | All Calls |
|---|---|---|---|---|
| Stack Time | 1.18 | 2.77 | 26.98 | 4.19 |
| Response Time | 6.67 | 7.85 | 12.21 | 7.85 |
| True Response Time | 7.85 | 10.62 | 39.19 | 12.04 |

The reader should note that Stack Time is measured from the time the dispatcher decides an officer should be dispatched to the time the call is dispatched. Response Time is measured from Dispatch to the time an officer arrives on-scene. True Response Time is the total of Stack Time and Response Time combined. This figure is the best representation of the True Response Time a citizen would see if he/she made a call for service into the GPD. Although this measurement does not begin as soon as the dispatcher answers the phone, the dispatcher can make the determination that an officer is needed and begin entering call information in a matter of seconds if the caller is clear and concise. If the caller is having difficulty communicating, this process could take longer. Figure 4 better illustrates this timeline.

**Figure 4: Timeline Used in Measuring True Response Time**

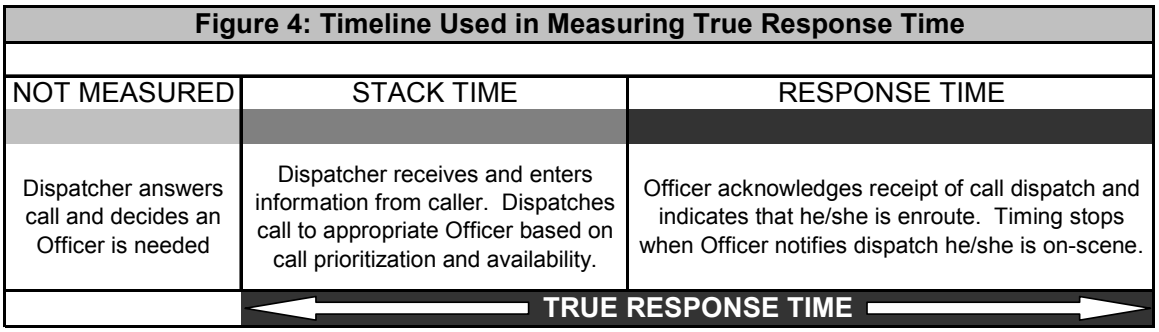
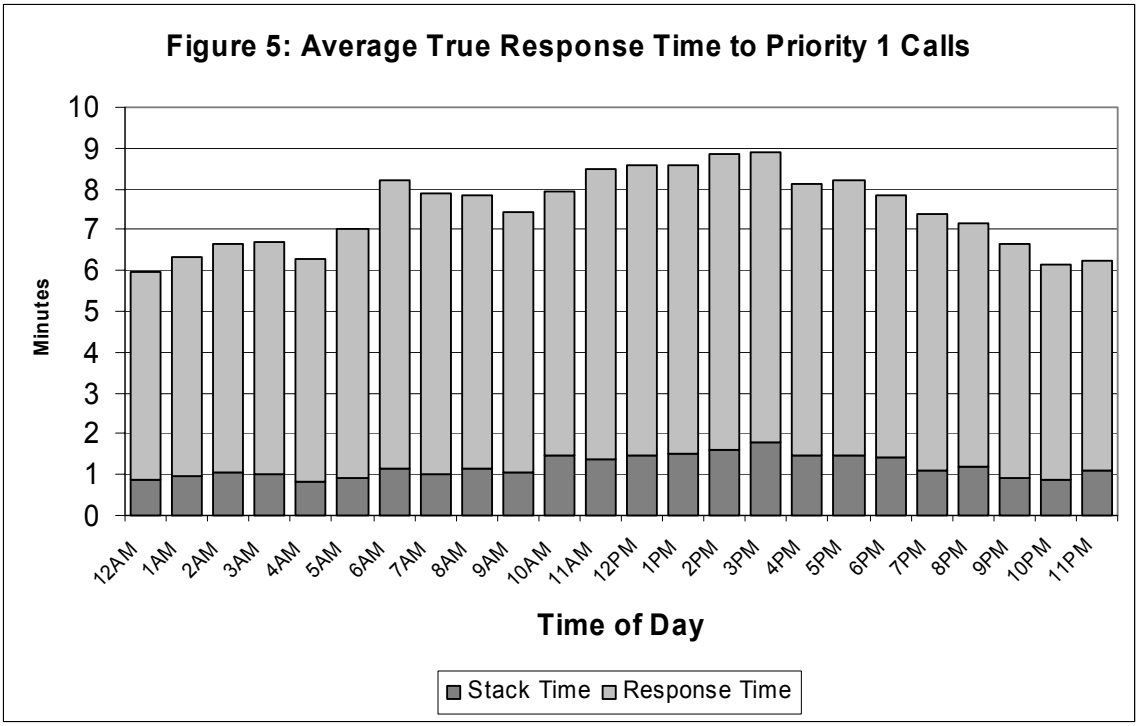



Figure 5 illustrates Average True Response Times by Time of Day for FY 2002-2003. Response Times are highest from 6:00 am to 6:00 pm. It should be noted that there are a number of factors that can influence the amount of time a call is held during Stack Time. As discussed previously, a Priority 2 call is dispatched with regard to District integrity and may be held until an officer in the same District as the call is available. Priority 3 Calls may be held until all higher priority calls are addressed. In addition to Call Priorities, there are times when calls must be held, especially during the busier times-of-day, because there are either no officers available to be dispatched or there is only one officer available for a call that requires back-up. In Calendar Year 2001, there were 19,741 instances when a call was held due to having no officers available. This number fell to 17,690 in CY 2002 and is projected to have been 17,624 in CY 2003 based on six-month data. Information on the amount of time these calls were held could not be retrieved from the CAD system. There are occurrences when officers will cancel back-up for a call that should have two officers in an effort to decrease the time a call would have to hold before dispatch. This can create a dangerous situation for the officers involved.




***FINDING 4: The average Shift Relief Factor per officer is 21.65 percent. This means that on average each officer is only "available" for patrol activities 78.35 percent of his/her 2080 hours over the course of a year. The other 21.65 percent represents Leave, Special Teams, Limited Duty, Training, Special Assignments, etc.***

The Shift Relief Factor (SRF) or Manpower Availability Factor is determined by compiling the amount of time that officers are not available for duty. This includes annual leave, sick leave, holiday leave, compensatory time, workman's compensation, special teams training, limited duty assignments, military leave, in-service training, and special assignments. Special teams included Special Response, Hostage Negotiations, Underwater Recovery, Hazardous Devices, Honor Guard and Mobile Command

In order to perform this calculation, leave information was compiled from the City of Greensboro's Lawson Enterprise Resource Planning (ERP) System for only patrol officers with the rank of Corporal and below from January 1, 2003 through October 15, 2003. This amount of leave was then annualized to arrive at a yearly average. There was no automated accurate way to obtain a detailed amount of leave for the past several years.

Limited duty records were retrieved from Personnel Services. It only includes records of patrol corporals and below. Limited duty includes all leave from regular duties as a result of a medical condition.

Figure 6 indicates the estimated hours that officers spent on leave, training, and other special assignments in Calendar Year 2003.

| Figure 6: Estimate of Leave Time and Other Assignments for CY 2003 | | |
|---|---|---|
| Leave Type | Hours | Average Per Officer (198) |
| Vacation, Holiday, Sick, etc. | 56,414 | 284.92 |
| Special Teams | 1,960 | 9.90 |
| Limited Duty | 15,140 | 76.46 |
| Military Leave | 3,413 | 17.24 |
| Training | 7,920 | 40.00 |
| Administrative Leave | 2,395 | 12.10 |
| Special Assignments | 1,927 | 9.73 |
| TOTAL | 89,169 | 450.35 |

The Shift Relief Factor is calculated as follows:

**450.35 Average Unavailable Hours per Year / 2080 Total Available Hours per Year**

**SRF = 21.65%**

The SRF is important because it indicates that an officer is only available 78.35% (100 - 21.65 = 78.35) of his/her total time. That is to say, if a squad is made up of six officers, the Supervisor could assume that on average, there will only be 4.7 officers available.

**6 officers * .7835 = 4.70**

Put another way, if current workload required 50 employee hours in a given hour, there would need to be 63.8 available employee hours to cover that workload.

**50 required hours / .7835 = 63.8**

***FINDING 5: A Greensboro Patrol Officer spends approximately 20.5% of his/her time on administrative duties.***

Administrative Activity is one of the three major divisions of a patrol officer's time. Figure 7 lists the administrative Activities of Greensboro Police Officers and indicates the average time allotted for these activities. Other Administrative Time includes, among other things, the time necessary for doing paperwork and meeting with the Supervisor.

| Figure 7: Administrative Activities | |
|---|---|
| Administrative Activity | Time |
| Meal | 0.50 Hours |
| Breaks | 0.50 Hours |
| Line-Up | 0.50 Hours |
| Vehicle Service | 0.25 Hours |
| Other Administrative Time | 0.50 Hours |
| TOTAL | 2.25 Hours |

If the normal shift for a patrol officer is 11 hours and 2.25 hours of his/her shift are used for administrative activities, only 8.75 hours or 79.5% of his/her time is left for answering Calls for Service and performing proactive patrol activities.

**2.25 Administrative Hours per Shift / 11 Total Hours per Shift**
**20.5% Administrative Time per Shift**

***FINDING 6: A Greensboro Patrol Officer spends approximately 72.9% of his/her time answering Calls for Service.***

A Time of Day/Day of Week Workload Analysis conducted as part of this study projects that patrol officers currently spend approximately 72.9% of their time answering calls for service. This is a drop of over five percentage points from the level at which officers were answering CFS (78.1%) before the GPD's recent redeployment efforts. The GPD was able to achieve this efficiency by lengthening the shifts of patrol officers, reducing the number of court days from 12 to 9, and transferring some existing personnel to patrol from other duties. Prior to making these changes, the GPD would have required an additional 15 officers to reduce the percentage of time spent answering CFS by an equivalent amount.

The Workload Analysis indicates that GPD patrol officers had 272,554 total responses in FY 2002-2003. *(This number of responses is slightly different from the one listed earlier in the report. This difference of less than one percent is the result of variations in CAD Datasets used to generate the two reports. The use of either figure should yield similar results.)* The total number of responses is then divided by 365 to determine the average number of responses per day and then multiplied by 0.9664 to calculate the average hours of response required in a day. The reader should recall from previous discussions in this report that each response requires an average of 96.64% of an hour.

**272,554 Responses / 365 Days = 746.7 Responses per Day**
**746.7 Responses per Day * .9664 percent of an hour**
**721.6 Hours of Call Response per Day**

The total number of Hours of Call Response per Day is then divided by the Total Available Employee Hours a day given the SRF. For the old deployment (prior to January 20, 2004), there were a total of 924 available employee hours. This calculation yields the percentage of available time per day that an officer spends responding to calls for service.

**721.6 Hours of Call Response / 924 Available Employee Hours**
**78.1% of Available Time Spent Answering CFS**

Under the new deployment plan, there are 990 available employee hours per day. This increase in the amount of available hours per day is the result of increasing the length of the shift by 0.5 hours and by shifting some additional personnel back to patrol. When the

above calculations are done using the new numbers, the percentage of available time spent answering calls for service decreases.

**721.6 Hours of Call Response / 990 Available Employee Hours**
**72.9% of Available Time Spent Answering CFS**

The spreadsheet containing all of the calculations for the Workload Analysis is listed as Object D in the Appendix.

In addition to lengthening the shift of patrol officers, the GPD also transitioned from three shifts to four. This was done to create shift overlaps at strategic times resulting in more officers on the street during the busiest times of day.

Figure 8 charts police responses by time of day. It is evident from the chart that the number of responses begins to sharply decline at 12:00 am and continues this decline until around 6:00 am. At 6:00 am the number of police responses begins to steadily increase and continues to increase until 11:00 pm. Figure 9 compares the number of police officers on the street with the old deployment plan with the number of police officers with the new deployment plan. Please note that these figures do assume a Shift Relief Factor of 21.65% per shift.

**Figure 8: Total Responses by Time of Day for FY 2002-2003**

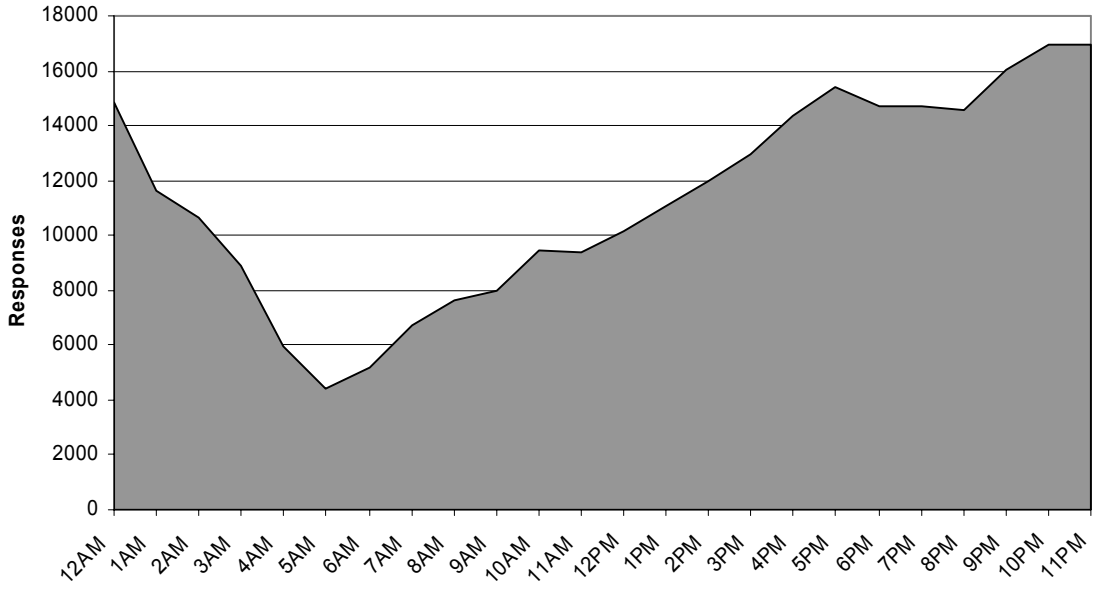
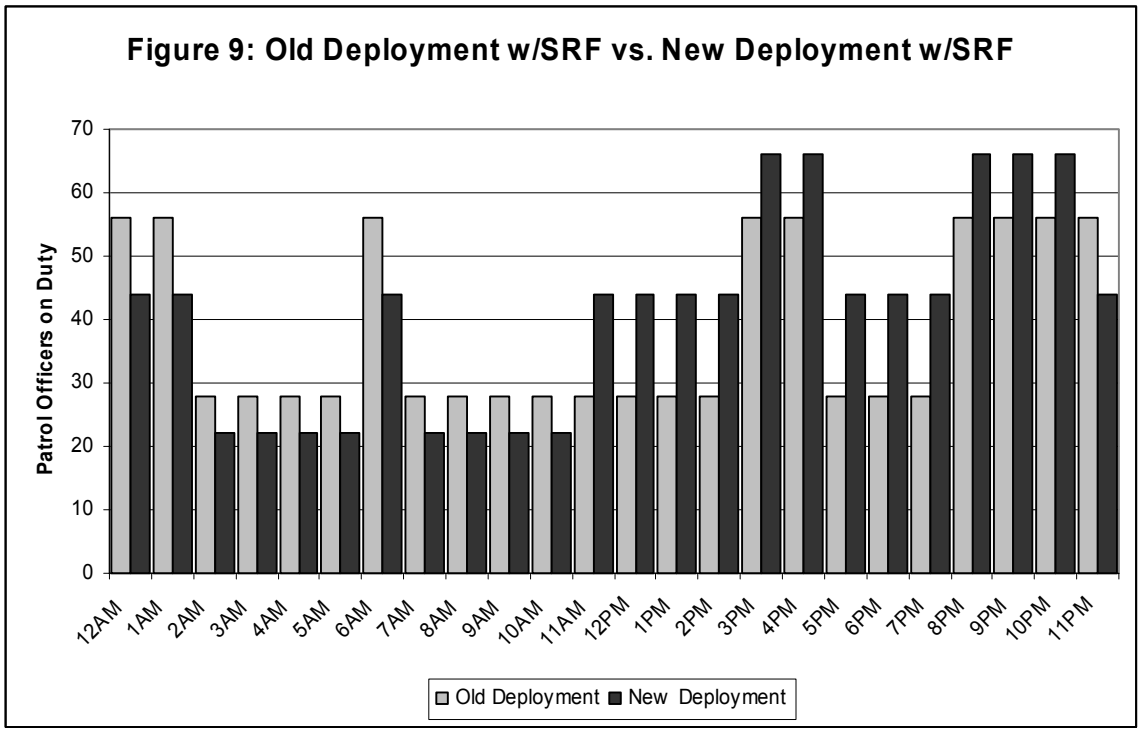



Figure 9 indicates that with the new deployment plan, there are fewer officers on the street from 12:00 am until 10:00 am when it has been noted that the number of required responses are lower. The new deployment plan puts more officers on the street from 11:00 am to 10:00 pm when the required number of responses is highest. By increasing

the total number of employee hours available per day and increasing the number of officers on the street during the busiest times of day, GPD leadership has taken significant steps in decreasing the percentage of time an officer must spend answering CFS.




***FINDING 7: A Greensboro Patrol Officer spends approximately 6.6% of his/her time on patrol and conducting proactive services.***

The IACP listed Policing Style/Philosophy as a professional guideline and departmental policy that should be addressed in any Patrol Staffing Study. By this, the IACP is referring to the division of patrol activity between Administrative Time, Time Answering CFS, and Proactive Time. The findings discussed thus far in the report indicate that Greensboro Police Officers are currently spending 20.5% of their time on administrative duties and 72.9 % of their time answering CFS, thus leaving only 6.6% of their time for proactive and patrol activities. It is during this time that patrol officers are expected to address quality of life issues and enforcement issues as well as be involved in community relations and community based problem solving. A more complete list of patrol officer duties is listed as Object E in the Appendix.

## COMPARATIVE DATA

The following section of the document contains comparative data collected from Durham, Raleigh, and Winston-Salem. The reader should recall that the IACP notes the importance of defining departmental policies and setting professional guidelines for the department as they relate to Policing Style/Philosophy, Service Philosophy, Response Time Standards, and Community Policing Roles. If an agency's Policing Style/Philosophy requires patrol officers to be proactive and active in Community Policing, that agency will require many more officers per capita than an agency that feels a patrol officer should spend most of his/her time responding to calls for service. Variations in Response Time Standards and policies regarding the use of non-sworn personnel can also affect on the number of patrol officers needed within a community. It should also be noted that different organizational structures and the variety of special units present in different police agencies further complicate the task of comparing staffing levels across agencies.

Most of the data in the following section was collected from the information submitted by Durham, Raleigh, and Winston-Salem to the Institute of Government as part of those cities' involvement in the North Carolina Local Government Performance Measurement Project. The City of Greensboro Budget & Evaluation and Police staff conducted interviews and asked many questions by telephone and e-mail to make every effort to ensure that the comparisons were accurate and that all of the data necessary to get a complete picture of the other departments was present. Despite these efforts, there is still no guarantee the data from other cities is consistent with that of the GPD.

There are no universally applicable patrol staffing standards. Each community must make decisions about the level of Police service that is right for the community. The following comparative data is offered only as a framework or basis of comparison for making decisions about the appropriate levels of Police service for the City of Greensboro.

The Cities of Raleigh, Durham, and Winston-Salem were chosen as comparative cities because they are similar to Greensboro in size, population, and other community characteristics. The reader will note that Greensboro consistently ranks somewhere in the middle on the selected community characteristics listed in Figure 10. Object F in the Appendix contains a more complete list of demographic data collected as part of this study.

**Figure 10: Selected Community Comparative Characteristics**

| | Durham | Greensboro | Raleigh | Winston-Salem |
|---|---|---|---|---|
| Size (Sq. Miles) | 98.2 | 116.6 | 127.25 | 109.7 |
| Population (2002 Est.) | 195,914 | 228,217 | 306,944 | 188,934 |
| Density (Persons/mi$^2$) | 1,995 | 1,957 | 2,412 | 1,722 |
| Median Household Income | $ 41,160 | $ 39,661 | $ 46,612 | $ 37,006 |
| % Individ. below Poverty | 15.0 | 12.3 | 11.5 | 15.2 |
| Unemployment Rate (for MSA) | 4.7 | 6.1 | 4.7 | 6.1 |

***FINDING 8: Greensboro ranks low in relation to the comparison cities in terms of the number of the most serious crimes and in total calls dispatched.***

Figure 11 indicates that the City of Greensboro ranks second behind only Raleigh in Part I crimes per 1,000 residents and is 5.1 percent lower than the average of 69.85 Part I crimes per every 1,000 residents.

**Figure 11: Part I Crimes per 1,000 Residents**

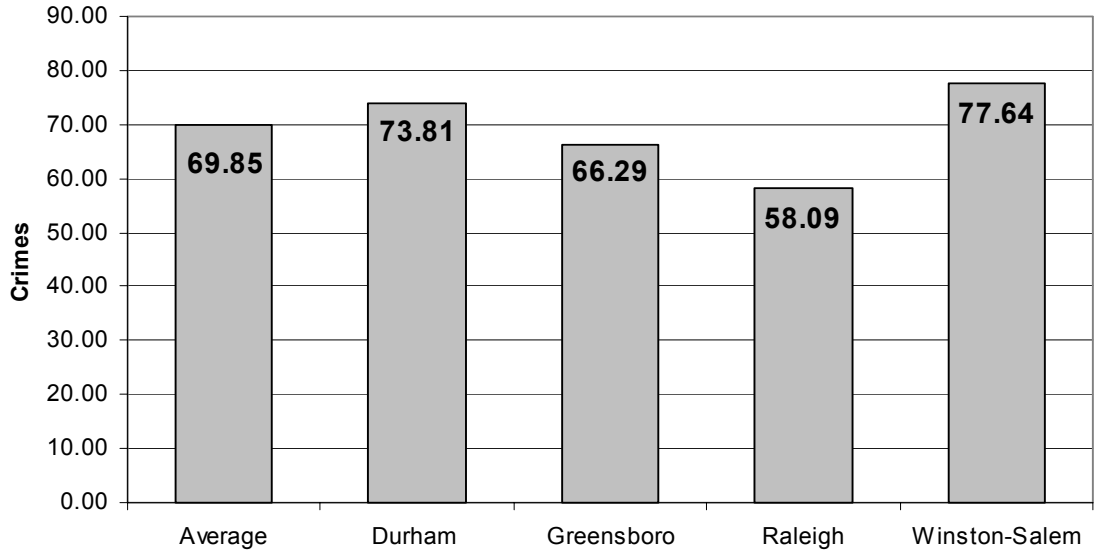



**Figure 12: Calls Dispatched per Capita**

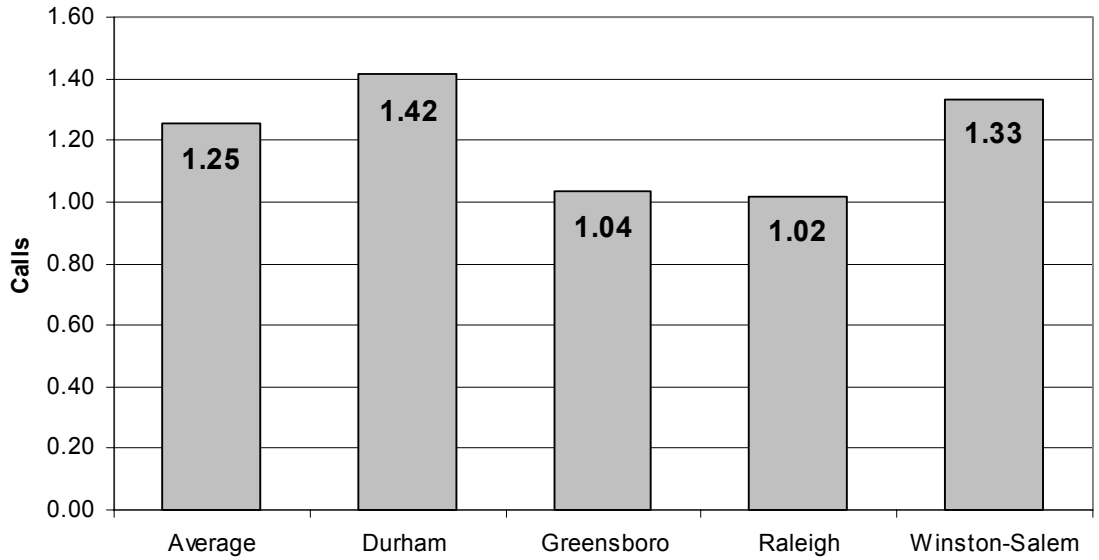


Figure 12 demonstrates that Greensboro's relative position does not change when one looks at the Calls Dispatched per Capita. Greensboro is still second only to Raleigh in having the lowest number of calls per capita. Winston –Salem and Durham are higher, however, Durham takes the top spot in calls dispatched per Capita while Winston-Salem has the highest number of Part I Crimes per 1,000 residents. Greensboro is 16.8 percent lower than the average in calls dispatched per capita. *(Please note that the averages that appear on the comparative graphs in this section are calculated using the figures from Durham, Raleigh, and Winston-Salem. The Greensboro figures were not used since it was being used as a comparison.)*

These measures offer a relatively good picture of criminal activity within the cities and a glimpse of the workload demand on patrol officers. It should be noted that a great deal of the workload for patrol officers does not come from Part I Crimes, but rather the quality of life issues that can plague a community such as reckless driving and property crimes. Only a fraction of these types of issues would be encompassed in either of these two community measures.

***FINDING 9: Greensboro ranks below average for both the number of sworn officers and number of total employees per 1,000 residents in relation to the comparison cities.***

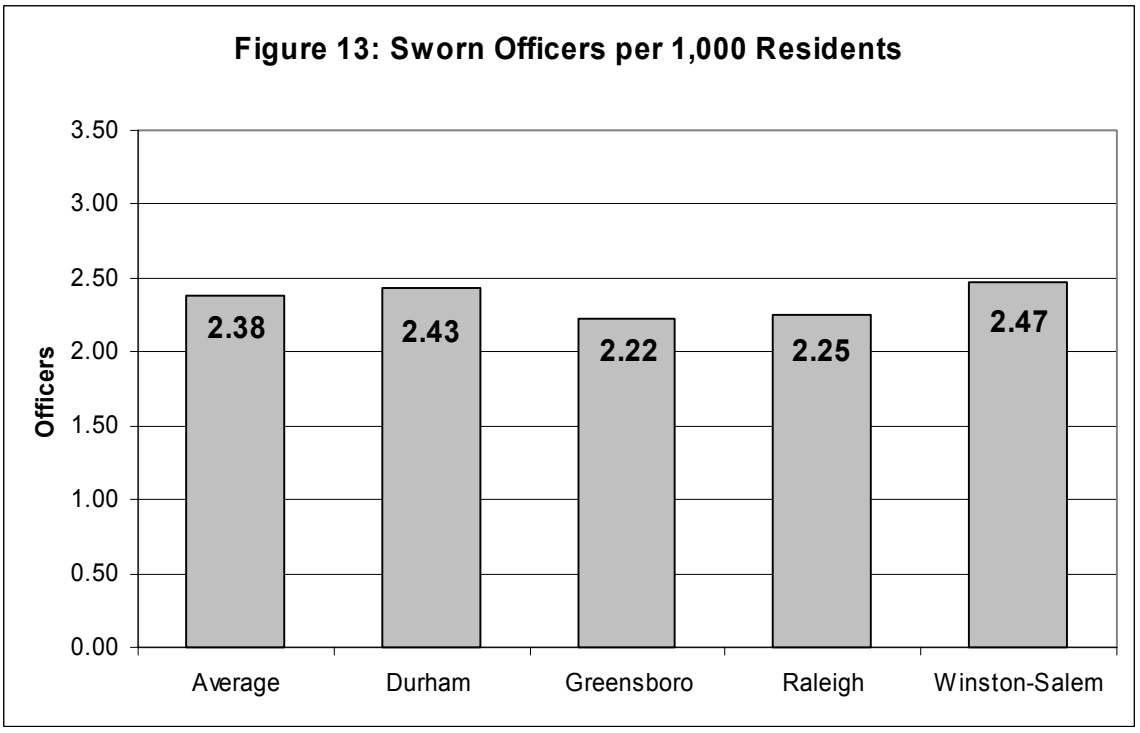



Figure 13 shows that Greensboro is well below the average of 2.38 officers per 1,000 residents and actually has fewer sworn officers per 1,000 residents than any of the comparison cities. When one looks at Total Employees per 1,000 residents as graphed in Figure 14, Greensboro's relative position changes somewhat.

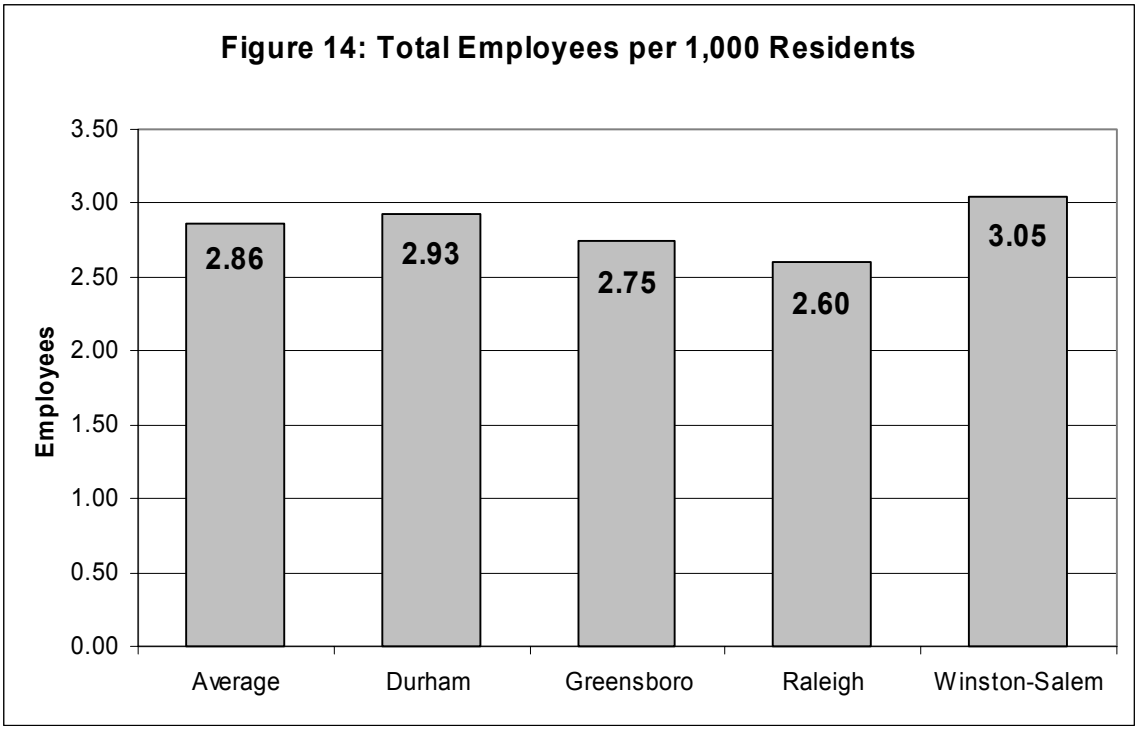



Figure 14 demonstrates that Greensboro's position relative to total employees per 1,000 residents moves closer to the average, although it is still below, and actually moves ahead of Raleigh in this measure. Winston-Salem ranks highest in both sworn officers per 1,000 residents and total employees per 1,000 residents while Durham is second highest in each of these categories. (*Emergency Communications (EC) positions were not included in the Total Employees figures used throughout this document in an effort to accurately compare the four cities. Greensboro is the only Police Department of these four cities in which EC is included in its budget.)*

The change in Greensboro's relative position when comparing these two measures indicates that Greensboro has a higher percentage of non-sworn employees than other cities. One of the possible reasons for this is that in defining its Service Philosophy, the GPD has determined that it is appropriate in certain situations to use non-sworn personnel when it does not pose a serious threat to the citizen or employee. As previously discussed, the Telephone Response Unit (TRU) and Mobile Response Technicians (MRT's) handled 12.5 percent of all "non-traffic stop" calls in FY 2002-2003. Of the comparison cities, Raleigh and Greensboro are the only ones that operate a TRU 24 hours a day, 7 days a week. Durham and Winston-Salem operate their TRU's on a more limited basis. Information on the total number of calls answered by TRU's in the comparison cities was not available at the time this document was written. Greensboro is the only one of these cities that uses non-sworn MRT's to take reports and conduct investigations on scene. Greensboro's use of non-sworn personnel would seem to indicate that it may not need as many sworn officers per 1,000 relative to the comparison cities.

Interviews with police representatives in the comparative cities uncovered some interesting facts that should be considered when comparing Greensboro's sworn and total employees per 1,000 residents with other cities. The City of Raleigh contracts out evidence collection, other forensic duties, parking enforcement, and portions of records management while the City of Greensboro handles these functions in-house. The Raleigh police force is also bolstered by the Capitol Police force of 49 sworn officers that are responsible for patrolling State buildings and other governmental complexes in and outside the Raleigh city limits.

The Durham Police Department contracts out parking enforcement and does not provide officers for any in-school programs such as DARE or School Resources Officers. These school functions are provided by the County while the Greensboro Police Department includes School Resource Officers in its budget.

The Greensboro Police Department has 11 officers assigned to the Police Neighborhood Resource Center that are responsible for serving public housing. The Durham Police Department has 14 "Housing Police" officers. Raleigh and Winston-Salem do not have any such unit.

Each city surveyed has at least one major interstate highway within its city limits. The responsibility for patrolling these highways varies from city to city. The Greensboro and Raleigh Police Departments are responsible for patrolling the interstate highways within their city limits. In Winston-Salem, the State Highway Patrol is responsible for patrolling Interstate 40, while the City is responsible for Business 40. The State Highway Patrol is primarily responsible for patrolling the interstates that run through the City of Durham.

***FINDING 10: Greensboro has fewer sworn officers per square mile and fewer sworn officers per road mile than the average of the comparison cities.***

Two of the many things that may affect the workload and response time of a patrol officer are the number of square miles and number of road miles that he/she must patrol. Figure 15 illustrates that Greensboro ranks third of the comparison cities in terms of Sworn Officers per Square Mile. With a ratio of 4.35 officers per square mile, Greensboro is 10.3 percent (0.5 officers) lower than the average and only 2.3 percent (0.1 officers) ahead of Winston-Salem, which has the fewest officers of all comparison cities. Raleigh leads this category with 5.43 officers per square mile.

Figure 16 indicates that Greensboro is the lowest of all comparison cities regarding the number of sworn officers per road mile. Roadways can drive workload for patrol officers through traffic collision investigations, traffic congestion, larcenies and auto break-ins, and burglaries. As in the previous measure, Raleigh leads this category with 0.58 officers per road mile. With 0.41 officers per road mile, Greensboro is 41.5 percent (0.17 officers) behind Raleigh and 29.3 percent (0.12 officers) below the average.

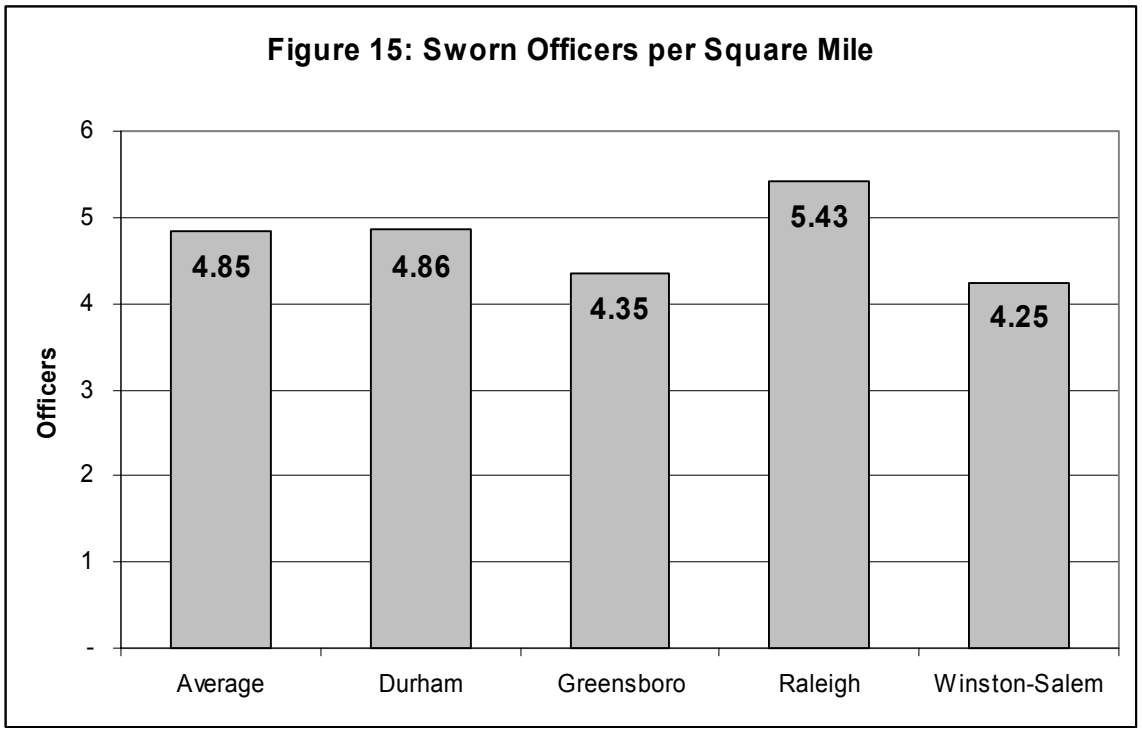


Figure 15: Sworn Officers per Square Mile
Officers
6
5
4
3
2
1
-
4.85
4.86
4.35
5.43
4.25
Average
Durham
Greensboro
Raleigh
Winston-Salem

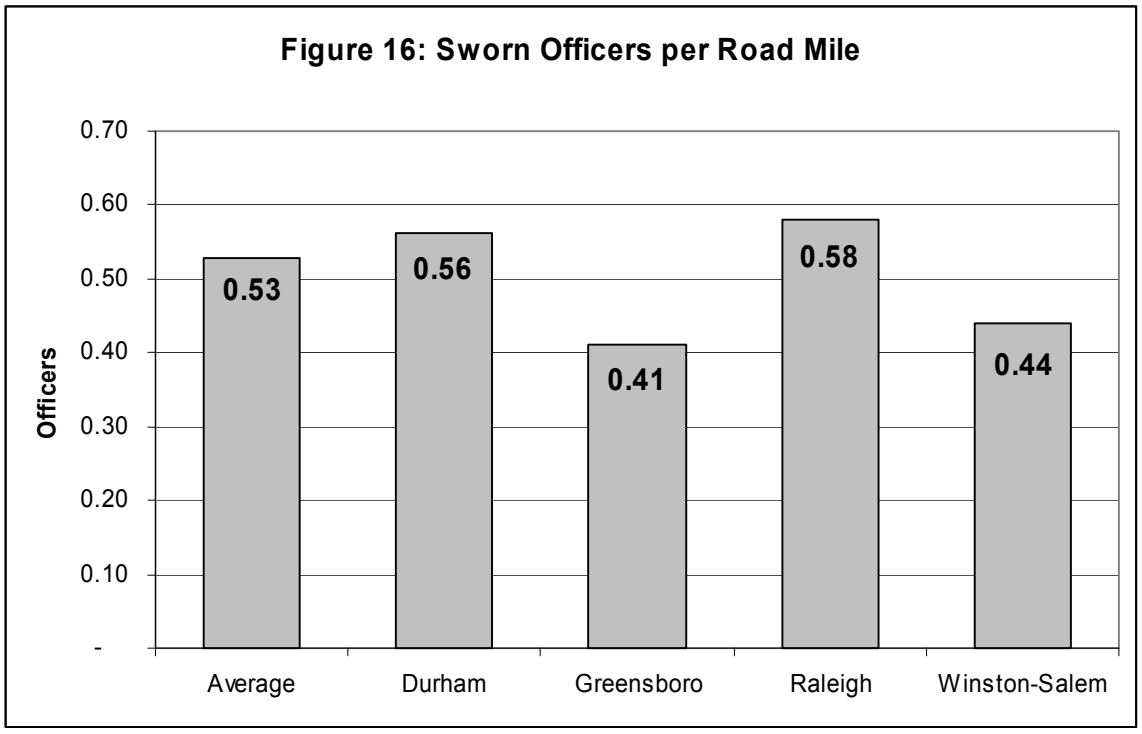
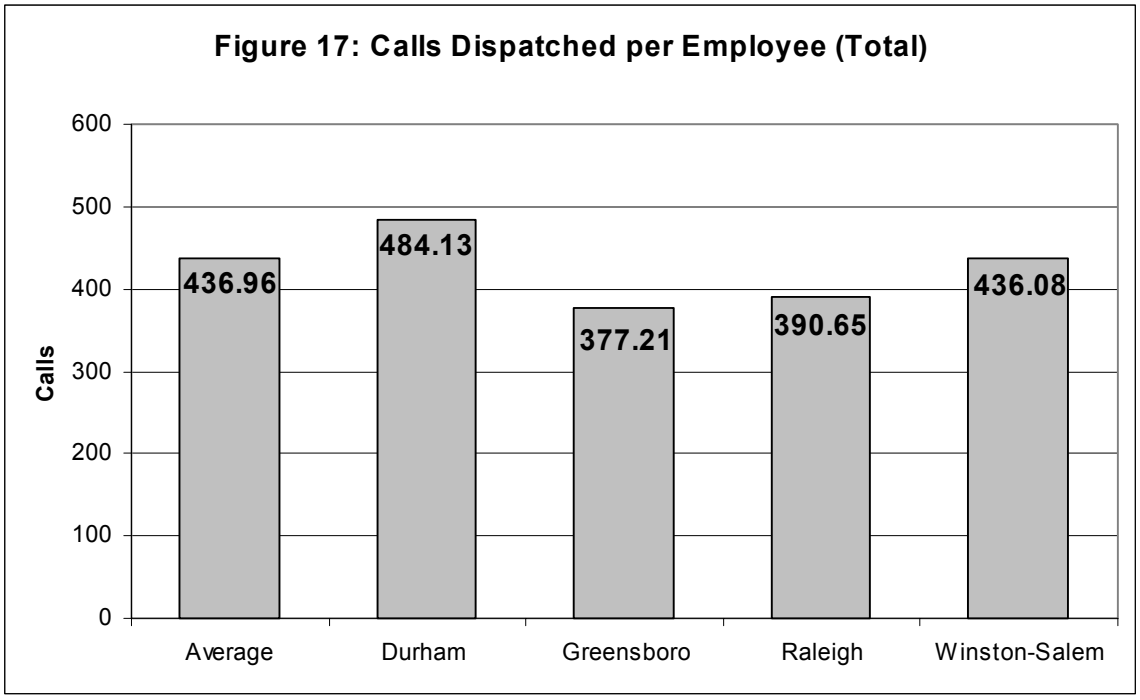


Figure 16: Sworn Officers per Road Mile
Officers
0.70
0.60
0.50
0.40
0.30
0.20
0.10
-
0.53
0.56
0.41
0.58
0.44
Average
Durham
Greensboro
Raleigh
Winston-Salem

***FINDING 11: Greensboro ranks below the average of the comparison regarding the number of calls dispatched per employee (sworn & non-sworn) and calls dispatched per sworn officer.***



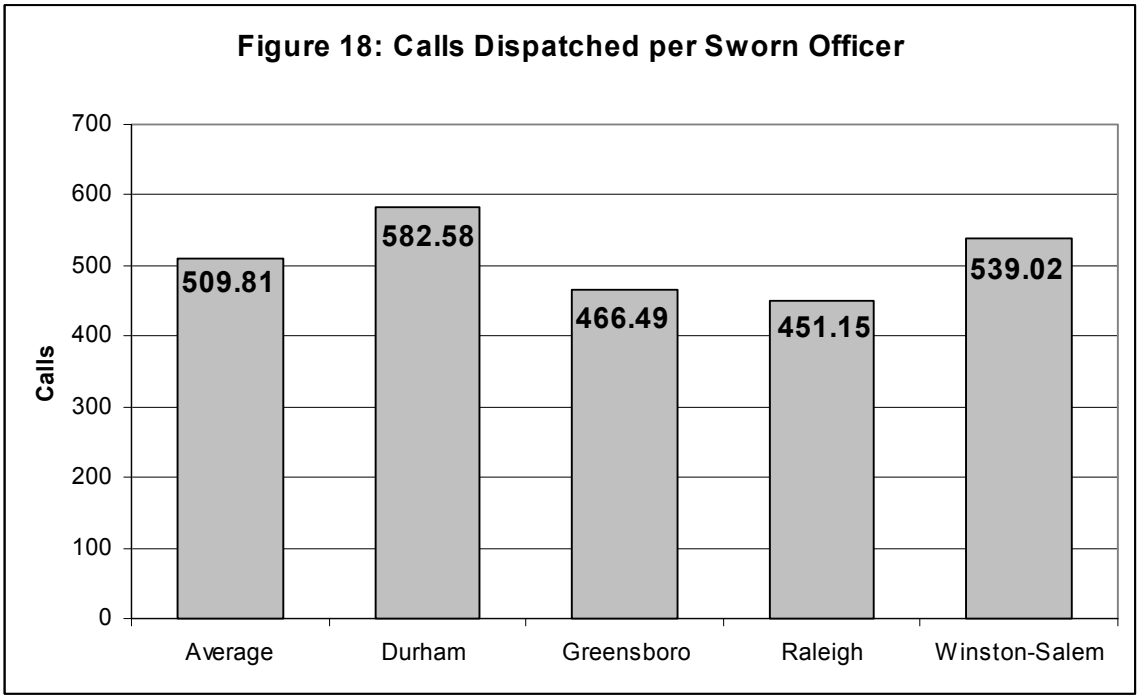



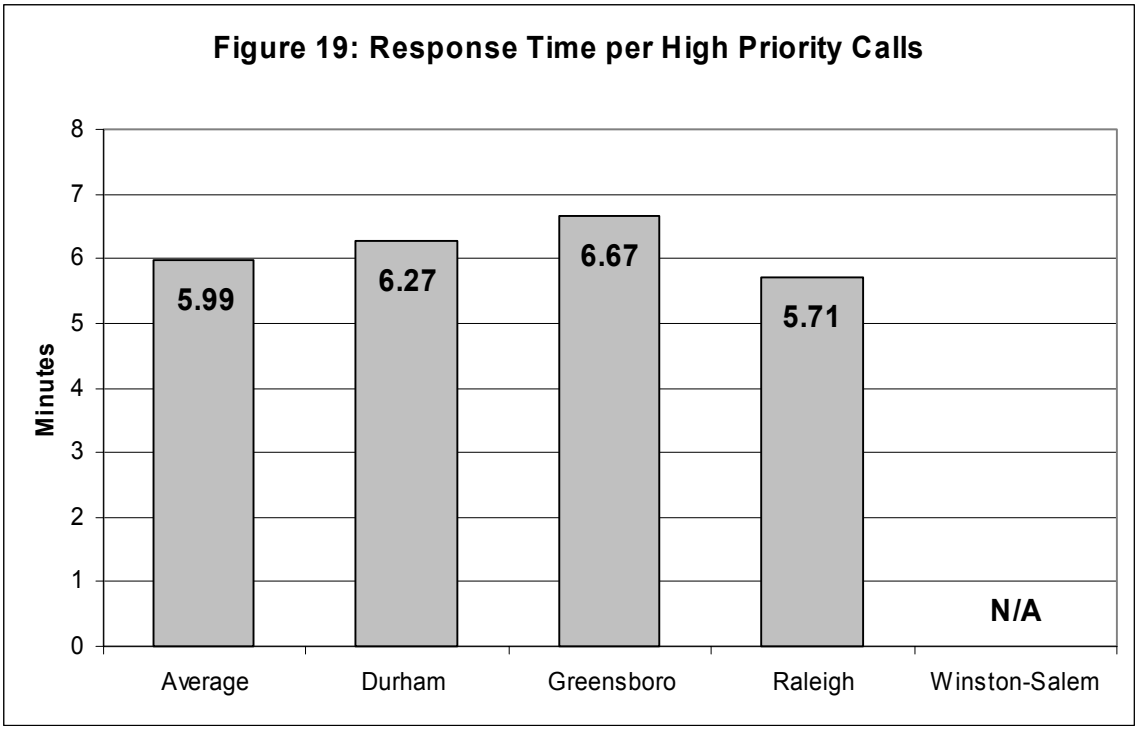
Figure 17 indicates that Greensboro ranks the lowest of the comparison cities in terms of calls dispatched per employee. As one might expect given Greensboro's higher percentage of non-sworn personnel, Raleigh and Greensboro switch relative positions when one examines Calls Dispatched per Sworn Officer, as illustrated in Figure 18. This same effect was noted in the discussion of total employees vs. sworn employees per 1,000 residents. This measure seems to indicate that despite Greensboro having fewer employees and sworn officers per 1,000 residents, these employees answer fewer calls than the average of the comparison cities.

The same inconsistencies discussed under the previous finding regarding the variations of duties, the use of special units, and the contracting out of services within some departments apply to this measure as well. Such organizational differences can greatly affect the number of police officers needed within a community to provide the desired level of service. Please note that this measure makes no judgment on the workload associated with these calls or the overall workload of the patrol officers.

The IACP indicated the importance of defining the Policing Style/Philosophy of patrol officers within an agency regarding the division of an officer's time during a workday. The number of patrol officers needed in a community is driven largely by the duties that are expected of those patrol officers. Greensboro patrol officers are currently spending 72.9 percent of their time responding to CFS. The police departments in the comparison cities also estimate that they are spending approximately 65 percent to 70 percent of their time answering CFS. Raleigh Police representatives stated that they wanted officers to spend approximately 65 percent to 70 percent of their time answering CFS, however they do not feel they are currently at that level. A representative from the Durham Police Department estimated that patrol officers are currently spending "about two-thirds" (66 percent) of their time answering calls for service. This number appears to be low given the high number of calls per employee, however the Durham Police representative did say that officers generally do not spend much time on proactive duties. Winston-Salem Police personnel stated that they felt patrol officers should be spending 60 percent to 70 percent of their time answering calls for service. Currently, they believe Winston-Salem patrol officers are closer to the 70 percent figure. It is important to note that the information regarding division of patrol officers' time in the comparison cities represents anecdotal data provided by leadership within those departments. Empirical data was not available at the time of the interviews to verify the information.

***FINDING 12: Greensboro is slower than average in terms of response time to high priority calls in regards to the comparison cities.***

Figure 19 indicates that Greensboro is 0.28 of a minute slower than the average response time to high priority calls with an average response time of 6.67 minutes. Raleigh was the quickest of the comparison cities at 5.71 minutes per high priority call while Durham was second at 6.27 minutes. Winston-Salem was not included in this comparison because they include self-initiated calls with a response time of zero in their response time calculations which artificially lowers their response time.




The response times reported in Figure 19 are measured from dispatch to arrival (i.e. drive time). The reader should note that this is different from the True Response Time reported earlier in this document and would not include any time the dispatcher spent talking to the caller or any time that the call would have been held due to a lack of available officers.

It is important to note that there are a number of factors that impact reported response times. Departments may classify High Priority Calls differently and have varying policies on the types of calls for which they run emergency traffic. Also, reliable data is dependent upon CAD operators being able to successfully identify only High Priority calls and exclude different types of calls such as self-initiated and traffic stops that may skew response time.

## FINDINGS SUMMARY

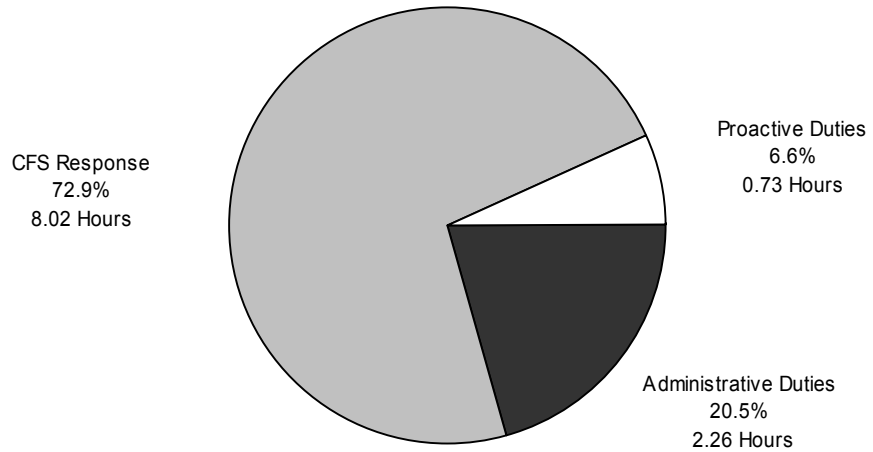
The purpose of this report to this point has been to explain the findings of the patrol staffing study as they relate to current workload and service levels and to compare these levels to similar cities in North Carolina. In FY 2002-2003, the Greensboro Police Department responded to 220,705 total Calls for Service. Non-sworn personnel responded to 12.5 percent of the total "Non-Traffic Stop" calls. Of the 151,583 "Non-Traffic Stop" calls responded to by patrol officers, 269,957 responses were generated meaning that an average of 1.78 officers were needed at each Call for Service. Each

response required approximately 96.64% of an hour or 57.98 minutes. The average True Response Time to each call was 12.04 minutes. The True Response Time to Priority 1 calls was7.85 minutes, to Priority 2 calls was 10.62 minutes, and to Priority III calls was 39.19 minutes.

The Shift Relief Factor for GPD patrol officers for FY 2002-2003 was 21.65 percent meaning that on average an officer is only available for normal duty 78.35 percent of his/her total available hours (2,080) over the course the year. The remaining time is generally spent on training, special assignments, leave, and/or limited duty.

A Workload Analysis performed by comparing the total hours needed for patrol response and total available hours indicated that Greensboro patrol officers generally spend about 72.9 percent of their time responding to Calls for Service. The administrative duties required of a patrol officer fill about 20.5 percent of his/her available time. Given the time required for these two functions, a patrol officer only has about 6.6 percent of his/her time available for general patrolling and proactive activities. Figure 20 illustrates this division of responsibilities and how it relates to a normal police shift of 11 hours.

**Figure 20: Average Division of Patrol Officers' Time per Shift**




As a community, Greensboro ranks lower than the comparison cities in terms of Part I crimes per 1,000 residents and the number of calls dispatched per capita. The Greensboro Police Department ranks below average in relation to the comparison cities regarding the number of sworn officers per 1,000 residents, the number of total employees per 1,000 residents, the number of sworn officers per square mile, and the number of officers per road mile. Despite being below average in these categories however, the Greensboro Police Department has fewer calls dispatched per sworn officer

and fewer calls dispatched per employee than the average of the comparison cities. The GPD's response time of 6.67 minutes to high priority calls is higher than the average of the comparison cities.

## STAFFING OPTIONS

The following section will detail four different staffing options for the Greensboro Police Department. The Workload Analysis used earlier in this document to determine the average percentage of time that officers spend answering CFS was used to estimate the number of additional officers required to reduce that time to a given target. That target varies in each option.

To make this projection, the number of *Response Hours* for each hour of day was divided by a fraction (0.68 in Option 1) to give the total number of *Required Employee Hours* during that hour to achieve the selected CFS percentage (68 percent in Option 1). The number of *Required Employee Hours* was then divided by 0.7835 in order to calculate the number of *Gross Required Employee Hours* needed for that hour of day given the Shift Relief Factor of 21.65 percent. That figure was then subtracted from the *Available Employee Hours* to arrive at the number of *Additional Employee Hours* needed to meet the CFS target percentage for that hour of day.

The above calculations were done for each hour of day and then averaged to determine the *Average Deficit of Employee Hours* during all hours of the day given the target CFS time. The *Average Deficit of Employee Hours* was then multiplied by 4.36 in order to determine the number of additional officers needed to achieve the target CFS percentage. This multiplier is necessary to account for the officers' 11-hour shift and the 4-On, 4-Off schedule. Object G through Object J in the Appendix are the spreadsheets used in making these calculations.

While considering the staffing options, it is important to understand the assumptions involved in the calculations. The selected CFS percentage assumes that the average number of Response Hours per Day remains the same in future years. In actuality, this number will likely fluctuate from year to year as the crime rate rises and falls and the demand for police services changes. The calculations also assume that the officers continue to work at the same rate. That is to say that the average response times do not change and that the officers continue to spend approximately the same amount of time on each type of CFS. The reality of the situation is that the additional officers could affect current service levels in several ways. Officers may be able to spend more time on CFS and provide a higher level of customer service. The additional officers would also likely have a positive impact on current response times. While both of these situations represent improvements to current service levels, they would do so at the detriment to the CFS Target estimates. Budget and Evaluation and Police staff would continue to monitor the percentage of time spent answering CFS to determine the accuracy of these

projections and the number of additional officers needed, if any, to reach the desired service level.

Readers should also remember that many factors must be considered in determining the appropriate number of patrol officers for a community. The Policing Style/Philosophy, Service Philosophy, Response Time Standards, and Community Policing Roles within a department can have significant impacts on the number of officers needed. The organization of the department and use of special units may also affect the required number of officers. For these reasons, the comparative information contained in this document should only be used as a framework for decision-making. The desired service level should be the major factor considered in evaluating the following options and the costs associated with them.

Figure 21 summarizes the four staffing options to be presented in this document.

**Figure 21: Staffing Options Summary**

| | Additional Officers | Administrative Time | CFS Time | Proactive/Patrol Time | % Point Increase |
|---|---|---|---|---|---|
| Current | | 20.5% | 72.9% | 6.6% | |
| Option 1 | 17 | 20.5% | 68.0% | 11.5% | 5% |
| Option 2 | 37 | 20.5% | 63.0% | 16.5% | 10% |
| Option 3 | 60 | 20.5% | 58.0% | 21.5% | 15% |
| Option 4 | 99 | 20.5% | 51.0% | 28.5% | 22% |

***Staffing Option 1: 17 Officers; 11.5 percent Proactive/Patrol Time***

With this allocation of personnel, the GPD would likely create two squads that would be permanently assigned to a 6:00 pm – 5:00 am power shift to help offset the CFS demand that occurs during this time period. Under the current patrol configuration, this is a period when the agency is most vulnerable to staffing shortages. This issue is likely to be amplified during the summer months with more late night activities occurring in the City. One officer from this additional personnel allocation would be assigned to the Downtown Walking Section.

It should be noted that two of the officers assigned to the permanent shifts denoted above would be sergeants and two would be corporals. This will be consistent with the current squad configurations. Because this option includes two newly developed squads that work different shifts than the traditional patrol officers, the establishment of the supervisory structure to provide proper direction and control is essential. The power squads would likely have citywide responsibility and adjust their geographic areas of assignment and reporting times based on the workload demands.

As a result of this deployment strategy, the agency would require nine fully equipped patrol vehicles at a minimum. This would allow for one spare vehicle for the power squads. Figure 22 details the costs associated with this option.

***Staffing Option 2: 37 Officers; 16.5 percent Proactive/Patrol Time***

In this option, the agency would likely add one patrol officer to each of the 32 patrol squads. This would increase their staffing to eight call-answering officers per squad. Four of the remaining officers would be assigned to the Community Resource Teams, and one officer would be assigned to the Downtown Walking Section. Each of these strategic placements of personnel would directly help to impact calls for police service.

As a result of this deployment strategy, the agency would need eight fully equipped patrol vehicles for patrol services and four administrative type vehicles for the Community Resource Team Officers. This deployment of personnel would require no new supervisory personnel. Figure 22 details the costs associated with this option.

***Staffing Option 3: 60 Officers; 21.5 percent Proactive/Patrol Time***

With this allocation of personnel, the agency would likely add one patrol officer to each of the 32 patrol squads. This would increase their staffing to eight call answering officers per squad. The agency would also create two squads that would be assigned permanently to a 6:00 pm – 5:00 am hour power shift to help offset the CFS demands that occur during this time period. Under the current patrol configuration, this is a period when the agency is most vulnerable to staffing shortages. This issue is likely to be amplified during the summer months with more late night activities occurring in the City. Four of the remaining officers would be assigned to the Community Resource Teams and two would be assigned to the Downtown Walking Section. The remaining six officers would be assigned to the Traffic Safety Section to address the response to traffic collisions and provide enforcement efforts to prevent traffic accidents. Each of these strategic placements of personnel help to impact calls for police service.

It should be noted that two of the officers assigned to the permanent shifts denoted above would be sergeants and two would be corporals. This will be consistent with the current squad configurations. Because this option includes two newly developed squads that work different shifts than the traditional patrol officers, the establishment of the supervisory structure to provide proper direction and control is essential. The power squads would likely have citywide responsibility and adjust their geographic areas of assignment and reporting times based on the workload demands.

This deployment strategy would require eight fully equipped patrol vehicles for the patrol function, nine fully equipped vehicles for the permanent shift function, four administrative type vehicles for the Community Resource Team function, and seven fully equipped vehicles for the Traffic Safety function. Figure 22 details the costs associated with this option.

***Staffing Option 4: 99 Officers; 28.5 percent Proactive/Patrol Time***

With this allocation of personnel, the agency would likely add three patrol officers to each of the 32 patrol squads. One of the remaining officers would likely be assigned to

the Downtown Walking Section and two officers would be assigned to the Traffic Safety Unit to supplement responses to CFS involving traffic collisions.

This deployment strategy would require the addition of 36 fully equipped patrol vehicles for the patrol function in order to have the minimum number of vehicles for a full shift deployment. Two fully equipped patrol vehicles for the Traffic Safety function are also needed. This deployment strategy could be implemented with the addition of no new supervisory positions. Figure 22 details the costs associated with this option. More information pertaining to the costs of each option is listed in the Appendix as Object K through Object N.

| Figure 22: Staffing Options Cost Summary | | | | | |
|---|---|---|---|---|---|
| | **Year 1** | **Year 2** | **Year 3** | **Year 4** | **Year 5** |
| **Option 1** 17 Officers | $1,476,420 | $1,027,020 | $1,058,310 | $1,092,190 | $1,126,190 |
| **Option 2** 37 Officers | $2,499,490 | $1,902,500 | $1,961,110 | $2,024,470 | $2,088,160 |
| **Option 3** 60 Officers | $3,169,260 | $3,790,060 | $3,415,740 | $3,525,660 | $3,636,020 |
| **Option 4** 99 Officers | $2,998,000 | $5,220,480 | $5,819,400 | $5,596,850 | $5,772,580 |